



Arch Chemicals, Inc.

MATERIAL SAFETY DATA

FOR ANY EMERGENCY, CALL 24 HOURS/7 DAYS:	1-800-654-6911
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:	1-800-424-9300
FOR ALL MSDS QUESTIONS & REQUESTS, CALL MSDS CONTROL:	1-800-511-MSDS

PRODUCT NAME: HTH® SPA BROMINATING TABLETS

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

REVISION DATE: 09-30-2003 SUPERCEDES: 12-20-2001
MSDS NO: 00044-0015 - 81105

MANUFACTURER: Arch Chemicals, Inc. 501 Merritt 7 PO Box 5204 Norwalk, CT 06856-5204

SYNONYMS: None
CHEMICAL FAMILY: Mixture of halogenated hydantoins
FORMULA: Not Applicable/Mixture
DESCRIPTION: Spa and pool sanitizer
OSHA HAZARD CLASSIFICATION: Corrosive, skin and eye hazard, respiratory irritant; sensitizer

SECTION 2 COMPONENT DATA

PRODUCT COMPOSITION

CAS or CHEMICAL NAME: 1-Bromo-3-chloro-5,5-dimethylhydantoin
CAS NUMBER: 16079-88-2
PERCENTAGE RANGE: 60-65%
HAZARDOUS PER 29 CFR 1910.1200: Yes
EXPOSURE STANDARDS: None Established

CAS or CHEMICAL NAME: 1,3-Dichloro-5,5-dimethylhydantoin
CAS NUMBER: 118-52-5
PERCENTAGE RANGE: 25-30%
HAZARDOUS PER 29 CFR 1910.1200: Yes
EXPOSURE STANDARDS: None Established

CAS or CHEMICAL NAME: 1,3-Dichloro-5-ethyl-5-methylhydantoin
CAS NUMBER: 89415-87-2
PERCENTAGE RANGE: 10-15%
HAZARDOUS PER 29 CFR 1910.1200: Yes
EXPOSURE STANDARDS: None Established

CAS or CHEMICAL NAME: Sodium chloride
CAS NUMBER: 7647-14-5
PERCENTAGE RANGE: 1-5%
HAZARDOUS PER 29 CFR 1910.1200: No
EXPOSURE STANDARDS: None Established

SECTION 3 PRECAUTIONS FOR SAFE HANDLING AND STORAGE

DO NOT TAKE INTERNALLY. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. UPON CONTACT WITH SKIN OR EYES WASH OFF WITH WATER.

STORAGE CONDITIONS: Store in a clean, dry, well ventilated area. Avoid excess heat, direct sunlight and high humidity or moisture.

DO NOT STORE AT TEMPERATURES ABOVE: 32 Deg.C (90 Deg.F)

PRODUCT STABILITY AND COMPATIBILITY

SHELF LIFE LIMITATIONS: No Data

INCOMPATIBLE MATERIALS FOR PACKAGING: Paper, cardboard

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT: Oxidizers, strong acids and bases, reducing agents, hydrated salts, organic compounds, nitrogen containing compounds such as quaternary ammonium salts (quats), algaecides

SECTION 4 PHYSICAL DATA

APPEARANCE: White to off-white granules or tablets/briquettes

MELTING POINT: 120-148 Deg.C (248-298 Deg.F)

BOILING POINT: Not Applicable

DECOMPOSITION TEMPERATURE: 165 Deg.C (329 Deg.F)

SPECIFIC GRAVITY: Not Applicable

BULK DENSITY: 1.6 (g/cc)

pH @ 25 DEG.C: 3.6 (1% slurry @ 25 Deg.C).

VAPOR PRESSURE @ 25 DEG.C: Not Applicable

SOLUBILITY IN WATER: 0.54%

VOLATILES, PERCENT BY VOLUME: < 0.5

EVAPORATION RATE: Not Applicable

VAPOR DENSITY: Not Applicable

MOLECULAR WEIGHT: Mixture/Not Applicable

ODOR: Slight, pungent

COEFFICIENT OF OIL/WATER DISTRIBUTION: Not Applicable

SECTION 5 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

PERSONAL PROTECTION FOR ROUTINE USE OF PRODUCT:

RESPIRATORY PROTECTION: Respiratory protection not normally needed. If dusting occurs, wear a NIOSH approved dust/mist respirator with acid-gas cartridges.

VENTILATION: Local exhaust ventilation is recommended if dusting occurs. Otherwise, use general exhaust ventilation.

SKIN AND EYE PROTECTIVE EQUIPMENT: Wear gloves and chemical goggles to avoid skin and eye contact.

OTHER: Emergency eye wash and safety showers must be provided in the immediate work area.

EQUIPMENT SPECIFICATIONS:

RESPIRATOR TYPE: Not normally needed. If dusting occurs, wear NIOSH approved dust/mist respirator with acid-gas cartridges .

PROTECTIVE CLOTHING TYPE: (This includes: gloves, boots, apron, protective suit): Neoprene or Impervious

SECTION 6 FIRE AND EXPLOSION HAZARD INFORMATION

FLAMMABILITY DATA:

FLAMMABLE: No

COMBUSTIBLE: No

PYROPHORIC: No

FLASH POINT: Not Applicable

AUTOIGNITION TEMPERATURE: No Data

FLAMMABLE LIMITS AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE (PERCENT VOLUME IN AIR): No Data

NFPA RATINGS: Not Established

HMIS RATINGS:
Health: 3
Flammability: 0
Reactivity: 1

EXTINGUISHING MEDIA: Not applicable

FIRE FIGHTING TECHNIQUES AND COMMENTS: Use water to cool containers exposed to fire. See Section XI for protective equipment for fire fighting. If material is involved in fire, hazardous concentrations of gases may be formed. (See Section VII). On small fires, use water spray or fog. On large fires, use heavy deluge or fog streams.

SECTION 7 REACTIVITY INFORMATION

CONDITIONS UNDER WHICH THIS PRODUCT MAY BE UNSTABLE:

TEMPERATURES ABOVE: 165 Deg.C (329 Deg.F)

MECHANICAL SHOCK OR IMPACT: No

ELECTRICAL (STATIC) DISCHARGE: No

HAZARDOUS POLYMERIZATION: Will Not Occur

INCOMPATIBLE MATERIALS: Strong acids, bases, organics, reducing agents, oxidizers, nitrogen containing materials, such as quaternary ammonium salts

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, hydrogen bromide, hydrogen chloride, cyanates, and other unidentified noxious gases

OTHER CONDITIONS TO AVOID: Moisture, high humidity and excess heat

SUMMARY OF REACTIVITY:

OXIDIZER: Yes
PYROPHORIC: No
ORGANIC PEROXIDE: No
WATER REACTIVE: No
CORROSIVE: Yes

SECTION 8 FIRST AID

EYES: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Call a physician at once.

SKIN: Immediately flush with water for at least 15 minutes. Call a physician. If clothing comes in contact with the product, the clothing should be removed immediately and should be laundered before re-use.

INGESTION: Immediately drink large quantities of water. DO NOT induce vomiting. Call a physician at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions.

INHALATION: If person experiences nausea, headache or dizziness, person should stop work immediately and move to fresh air until these symptoms disappear. If breathing is difficult, administer oxygen, keep the person warm and at rest. Call a physician. In the event that an individual inhales enough vapor to lose consciousness, person should be moved to fresh air at once and

a physician should be called immediately. If breathing has stopped, artificial respiration should be given immediately. In all cases, ensure adequate ventilation and provide respiratory protection before the person returns to work.

SECTION 9 TOXICOLOGY AND HEALTH INFORMATION

ROUTES OF ABSORPTION

Ingestion, dermal contact, inhalation and eye contact

WARNING STATEMENTS AND WARNING PROPERTIES

CAUSES SKIN, EYE AND DIGESTIVE TRACT BURNS. MAY CAUSE RESPIRATORY IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. HARMFUL IF SWALLOWED. DO NOT TAKE INTERNALLY.

HUMAN DOSE RESPONSE DATA:

ODOR THRESHOLD: No data

IRRITATION THRESHOLD: Although there is no data available on this particular product, it can be presumed that the irritation threshold may be similar to chlorine and/or bromine. For chlorine the odor threshold has been reported to be 0.31 ppm and for bromine 0.051 ppm in air.

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH: No IDLH concentration has been established for this product.

SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE

INHALATION

ACUTE:

Inhalation of dust may cause mucous membrane and lung irritation with symptoms of coughing and choking.

CHRONIC:

There is no data available on the potential effects of repeated inhalation of this material.

SKIN

ACUTE:

Direct contact to the skin will cause irritation and be corrosive to the skin with destruction of skin tissue. Repeated contact to dilute solutions of this product may cause allergic skin reactions in some individuals.

CHRONIC:

Repeated dermal exposure may cause tissue destruction due to the corrosive nature of the product.

EYE

ACUTE:

Eye contact may be corrosive (burns) with permanent eye damage and impairment of vision.

INGESTION

ACUTE:

Ingestion may cause burns of the mouth and throat and cause gastroenteritis with any or all of the following symptoms: Nausea, vomiting, lethargy, diarrhea, abdominal pain, bleeding or tissue ulceration.

CHRONIC:

There is no data available on repeated oral exposure to this product. Chronic ingestion of significant amounts of this product is unlikely because of its acute corrosive action.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Asthma and other respiratory diseases, skin disorders and allergies.

INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY:

None known or reported

ANIMAL TOXICOLOGY

ACUTE TOXICITY:

Oral LD 50: 468 mg/kg. (rats)

Dermal LD 50: > 2 g/kg. (rabbit)

Inhalation LC 50: 20.5-29.4 mg/l/1hr. (rat)

CORROSIVE TO SKIN AND EYES (RABBIT). CAUSED SKIN SENSITIZATION IN GUINEA PIGS

ACUTE TARGET ORGAN TOXICITY:

This product may be severely irritating and/or corrosive to all tissues contacted and upon inhalation of dust, may cause irritation to mucous membranes and respiratory tract.

Repeated contact to dilute solutions of this product may cause allergic skin reactions in some individuals.

CHRONIC TARGET ORGAN TOXICITY:

Effects from chronic exposure would be similar to those from single exposure and may include effects secondary to tissue destruction.

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY:

This product is not known or reported to cause effects on reproductive function or fetal development.

CARCINOGENICITY:

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

MUTAGENICITY:

This product is not known or reported to be mutagenic.

AQUATIC TOXICITY:

Rainbow trout, 96 hr. LC50: 0.5 mg/l

Bluegill sunfish, 96 hr. LC50: 1.2 mg/l

Daphnia magna, 48 hr. LC50: 0.4 mg/l

Mysid shrimp, 96 hr. LC50: 0.93 mg/l

SECTION 10 TRANSPORTATION INFORMATION

This product is regulated as a hazardous material under U.S. DOT 49 CFR 172.101.

U.S. Ground: Oxidizing Solid, NOS (Halogenated Hydantoins), 5.1, UN1479, II Hazardous Substance under 49 CFR 172.101, Appendix A: No Emergency Respons Guidebook# 140

ICAO/IATA Air: Same As U.S. Ground

IMDG Ocean: Same As U.S. Ground
Marine Pollutant: Not Listed

Label/Placards: 5.1 Oxidizer

SECTION 11 SPILL AND LEAKAGE PROCEDURES

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC AT 800-424-9300.

REPORTABLE QUANTITY(POUNDS): Not Applicable (Per 40 CFR 302.4)

SPILL MITIGATION PROCEDURES:

Hazardous concentrations in air may be found in local spill area. Remove all sources of ignition. Stop source of spill if safe to do so. Do not place spilled material into its original container. Put spill materials into a plastic bag in a clean, dry container approved for this material.

Air Release: Dust may be suppressed by the use of a water fog. All water must be captured for treatment and/or disposal.

Water Release: This material is heavier than and soluble in water. Divert flow to a holding area for treatment and/or neutralization. Notify all downstream parties of possible contamination.

Land Spill: Keep material dry at all times. If damp or wet mix with clean sand to stabilize and/or destroy material immediately. Up right original container and seal properly. Clean up spill material utilizing clean, dry equipment and containers compatible with this material. DO NOT place spill materials into original container.

SPILL RESIDUES:

Dispose of per guidelines under Section XII, WASTE DISPOSAL.

This material may be neutralized for disposal; you are requested to contact 800-6546-911 before beginning any such operation.

PERSONAL PROTECTION FOR EMERGENCY SPILL AND FIRE-FIGHTING SITUATIONS:

Response to this material may require the use of a NIOSH approved self-contained breathing apparatus (SCBA).

Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, gloves, splash-proof goggles and impervious clothing, i.e., chemically impermeable suit.

Compatible material for response to this material is: neoprene.

SECTION 12 WASTE DISPOSAL

If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001.

As a hazardous solid waste, it must be disposed of in accordance with local, state and federal regulations in a permitted hazardous waste treatment, storage and disposal facility by treatment.

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

SECTION 13 ADDITIONAL REGULATORY STATUS INFORMATION

TOXIC SUBSTANCES CONTROL ACT:

This product is regulated under the Federal Insecticide, Fungicide and Rodenticide Act. The only registered use is in an algaecide. A component of this product is not listed on the Toxic Substance Control Act

inventory.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT TITLE 3:

HAZARD CATEGORIES, PER 40 CFR 370.2:

HEALTH:

Immediate (Acute)

PHYSICAL:

Fire

EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW, PER 40 CFR 355, APP.A:

EXTREMELY HAZARDOUS SUBSTANCE - THRESHOLD PLANNING QUANTITY:

None Established

SUPPLIER NOTIFICATION REQUIREMENTS, PER 40 CFR 372.45:

None Established

SECTION 14 ADDITIONAL INFORMATION

MSDS REVISION STATUS: Revision to Section: 10

SECTION 15 MAJOR REFERENCES

References are available upon request.

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT.

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